The Pending Claims:

1. (Original) A method for processing a substrate in a processing chamber, comprising:

forming a conductive material layer on a surface of the substrate;

depositing an amorphous carbon layer on the conductive material layer;

etching the amorphous carbon layer to form a patterned amorphous carbon layer; and

etching feature definitions in the conductive material layer corresponding to the patterned amorphous carbon layer.

2. (Original) The method of claim 1, wherein the conductive material is selected from the group of aluminum or aluminum alloy.

3. (Original) The method of claim 1, wherein the depositing an amorphous carbon layer comprises:

introducing into the processing chamber one or more hydrocarbon compounds having the general formula C_xH_y, wherein x has a range of 2 to 4 and y has a range of 2 to 10; and

generating a plasma of the one or more hydrocarbon compounds.

4. (Original) The method of claim 3, wherein the one or more hydrocarbon compounds are selected from the group consisting of propylene (C_3H_6), propyne (C_3H_4), propane (C_3H_8), butane (C_4H_{10}), butylene (C_4H_8), butadiene (C_4H_6), acetelyne (C_2H_2), and combinations thereof.

5. (Original) The method of claim 3, further comprising introducing an inert gas with the one or more hydrocarbons into the processing chamber.

6. (Original) The method of claim 3, wherein the generating a plasma comprises applying power from a dual-frequency RF source.

7. (Original) The method of claim 1, wherein the etch selectivity of amorphous carbon to the conductive material is between about 1:3 and about 1:10.

8. (Original) The method of claim 1, wherein the amorphous carbon layer comprises an anti-reflective coating.

9. (Original) A method for processing a substrate in a chamber, comprising:

forming a conductive material layer on a surface of the substrate;

depositing an amorphous carbon hardmask on the conductive material layer;

depositing an anti-reflective coating on the amorphous carbon hardmask;

depositing a patterned resist material on the anti-reflective coating;

etching the anti-reflective coating and amorphous carbon hardmask to the conductive material layer; and

etching feature definitions in the conductive material layer.

10. (Original) The method of claim 9, wherein the conductive material is selected from the group of aluminum or aluminum alloy.

11. (Original) The method of claim 9, wherein the depositing an amorphous carbon hardmask comprises:

introducing into the processing chamber one or more hydrocarbon compounds having the general formula C_xH_y, wherein x has a range of 2 to 4 and y has a range of 2 to 10; and

generating a plasma of the one or more hydrocarbon compounds.

12. (Original) The method of claim 11, wherein the one or more hydrocarbon compounds are selected from the group consisting of propylene (C_3H_6), propyne (C_3H_4), propane (C_3H_8), butane (C_4H_{10}), butylene (C_4H_8), butadiene (C_4H_6), acetelyne (C_2H_2), and combinations thereof.

13. (Original) The method of claim 11, further comprising introducing an inert gas with the one or more hydrocarbons into the processing chamber.

14. (Original) The method of claim 11, wherein the generating a plasma comprises applying power from a dual-frequency RF source.

15. (Original) The method of claim 9, wherein the anti-reflective coating is a material selected from the group of silicon nitride, silicon carbide, carbon-doped silicon oxide, amorphous carbon, and combinations thereof.

16. (Original) The method of claim 9, further comprising depositing a barrier layer prior to depositing the aluminum layer.

17. (Original) The method of claim 9, further comprising removing the resist material prior to etching feature definitions in the aluminum layer.

18. (Original) The method of claim 9, wherein the etch selectivity of amorphous carbon to the conductive material is between about 1:3 and about 1:10.

19. (Original) A method for processing a substrate in a chamber, comprising:

forming an aluminum-containing layer on a surface of the substrate;

depositing an amorphous carbon hardmask on the aluminum-containing layer;

depositing an anti-reflective coating on the amorphous carbon hardmask, wherein the anti-reflective coating is a material selected from the group of silicon nitride, silicon carbide, carbon-doped silicon oxide, amorphous carbon, and combinations thereof;

depositing a patterned resist material on the anti-reflective coating;

etching the anti-reflective coating and amorphous carbon hardmask to the aluminum-containing layer;

removing the resist material;

etching feature definitions in the aluminum-containing layer at an etch selectivity

of amorphous carbon to the aluminum-containing between about 1:3 and about 1:10; and

removing the one or more amorphous carbon layers by exposing the one or more amorphous carbon layers to a plasma of a hydrogen-containing gas or an oxygen-containing gas.

20. (Original) The method of claim 19, wherein the one or more hydrocarbon compounds are selected from the group consisting of propylene (C_3H_6), propyne (C_3H_4), propane (C_3H_8), butane (C_4H_{10}), butylene (C_4H_8), butadiene (C_4H_6), acetelyne (C_2H_2), and combinations thereof.

21. (Original) The method of claim 19, further comprising introducing an inert gas with the one or more hydrocarbons into the processing chamber.

22. (Original) The method of claim 19, wherein the generating a plasma comprises applying power from a dual-frequency RF source.